

colloidal solutions is explained by the author as due to osmotic phenomena.—Jean **Bielecki** and René **Wurmser**: The action of the ultra-violet rays on starch. Exposure of solutions of highly purified starch to the light from a Cooper Hewitt lamp caused a reduction of the rotatory power. Dextrins, reducing sugars, pentoses, formaldehyde, and some acids were detected in the solution.—Mme. Paul **Lemoine**: Calcareous algæ collected during the Charcot Expedition, 1908–10.—Mme. **Phisalix**: The natural immunity of the hedgehog towards the poison of *Heloderma suspectum*. The immunity of the hedgehog against the poison of the lizard is due to the resistance of its cells; it is a cytological immunity.—Ch. **Gravier**: The Pterobranchs described by the second French Antarctic Expedition, and a parasitic crustacean on one of them.—E. **Bataillon**: New analytical researches on the experimental parthenogenesis of amphibians.—A. **Trillat** and M. **Fouassier**: Study of the properties of a distillate from a culture of *B. proteus* upon the vitality of micro-organisms.—L. **Lemaitre**: The estimation of mono- and bi-metallic phosphates in the presence of organic compounds of acid nature. Evaluation of the total urinary acidity.—R. **Fosse**: Syntheses of urea by oxidation of ammonia and the carbohydrates, of glycerol, and of formaldehyde.—Gabriel **Bertrand** and F. **Medigreceanu**: The presence and the distribution of manganese in the organs of animals. With the exception of white of egg of birds, manganese has been found in all the organs and in all the animal products examined.—J. **Deprat**: The discovery of the Ordovician with Trinucleus and the Dinantian in North Annan, and on the general geology of this region.—E. **Rothé**: The possible influence of solar radiations on the propagation of Hertzian waves. A study of the intensity of wireless signals during the recent eclipse of the sun.—Albert **Turpain**: The influence of the eclipse of the sun of April 17, 1912, on the propagation of electric waves.—M. de Montessus **de Ballore**: The non-existence of isoseistic curves.

CALCUTTA.

Asiatic Society of Bengal, May 1.—Dr. **Anandale**: Frogs and snakes from the Abor foot-hills. The collection exhibited forms a very interesting addition to our knowledge of the fauna of the Himalayas, illustrating a district (the eastern extremity of the great range) hitherto almost unknown. Specimens of at least twenty species of frogs, mostly arboreal in habits, were obtained, and of these more than a third are new to science, while several (notably species of the two peculiar Burmese genera *Chirixalus* and *Phrynoderma*) are of considerable interest from a geographical point of view. No fewer than twenty-three kinds of snakes were obtained, including three apparently new to science, one of which represents a hitherto undescribed genus.—S. W. **Kemp**: Specimens of *Peripatus* from the lower Abor hills. *Peripatus* is a very primitive arthropod which shows relationships with both worms and insects. It had not previously been found within the limits of the Indian Empire nor, in the eastern hemisphere, in any locality north of the Malaya Peninsula. The specimens from the Abor country show some affinity with those from the latter region, but they evidently represent a species hitherto undescribed.—W. **Kirkpatrick**: A comparative vocabulary of the language of European Gypsies or Romnichal and colloquial Hindustani. Although the linguistic test is not an infallible test of pedigree, it seems possible to account for the similarity of Romnichal or the language of European Gypsies and colloquial Hindustani by the fact that the Gypsy folk of Europe came originally

from India. The Gypsy words given in the vocabulary show in most cases an obvious identity with Hindustani. The Gypsy terminal or affix *Engro* or *Mengro* corresponds to the Hindustani *Wallah*.—D. N. **Mallik**: Note on the secular cooling of the earth and a problem in conduction of heat.

BOOKS RECEIVED.

A Handbook of Nursing. By M. N. Oxford. Sixth edition. Pp. viii+319. (London: Methuen and Co., Ltd.) 3s. 6d. net.

Les Nomogrammes de l'Ingénieur. By R. S. de la Garza. Pp. xii+195+lxxxv plates. (Paris: Gauthier-Villars.) 12 francs.

Tierpsychologisches Praktikum in Dialogform. By Prof. K. C. Schneider. Pp. iii+719. (Leipzig: Veit & Co.) 16 marks.

Mémoires Scientifiques: I. Sciences Exactes dans l'Antiquité, 1876–1884. By P. Tannery, J. L. Heiberg, and H. G. Zeuthen. Pp. xix+466. (Toulouse: É. Privat; Paris: Gauthier-Villars.) 15 francs.

Fossilrekonstruktionen. By Dr. F. König. Pp. 70+10 plates. (München: E. Dultz & Co.)

Smithsonian Institution, U.S. National Museum. Report on the Progress and Condition of the U.S. National Museum for the Year ending June 30, 1911. Pp. 147. (Washington: Government Printing Office.)

Report of the Commissioner of Education for the Year ended June 30, 1911. Vol. i. Pp. xviii+675. (Washington: Government Printing Office.)

Diary of Birds' Nests and Eggs. Pp. iii+22 pp. of ruled paper. (London: Hugh Rees, Ltd.)

Concrete Costs. By Dr. F. W. Taylor and S. E. Thompson. Pp. xxii+709. (New York: J. Wiley and Sons; London: Chapman and Hall, Ltd.) 21s. net.

Chemical Research in its Bearings on National Welfare (incorporating a lecture delivered by Prof. Emil Fischer in Berlin, January 11, 1910). Pp. 80. (London: S.P.C.K.) 1s. 6d.

The Dynamics of Particles, and of Rigid, Elastic, and Fluid Bodies: being Lectures on Mathematical Physics. By Prof. A. G. Webster. Second edition. Pp. xii+588. (Leipzig: B. G. Teubner; New York: G. E. Stechert and Co.; London: Williams and Norgate.) 14s. net.

Memoirs of the Connecticut Academy of Arts and Sciences. Vol. iii. March, 1911: A Study of Chiriquian Antiquities. By Dr. G. G. MacCurdy. Pp. xx+249+xlx. (New Haven, Conn.: Yale University Press.)

Problems in Practical Chemistry for Advanced Students. By G. F. Hood. Pp. vi+265. (London: Mills and Boon, Ltd.) 5s.

University of London. Francis Galton Laboratory for National Eugenics. Eugenics Laboratory Memoirs, XVI.:—Treasury of Human Inheritance. Name and Subject Indices to Vol. i. By J. Bell. Pp. xiv+575–591. (London: Dulau and Co., Ltd.) 3s. net.

The Cinematograph and Natural Science. By L. Donaldson. Pp. 88. (London: Ganes, Ltd.) 2s. 6d. net.

Advanced Calculus. By Prof. E. B. Wilson. Pp. ix+566. (Boston, New York, Chicago, and London: Ginn and Co.) 20s. net.

Elements of the Differential and Integral Calculus. By Dr. W. A. Granville. Revised edition with the

editorial cooperation of Prof. P. F. Smith. Pp. xv+463. (Boston, New York, Chicago, and London: Ginn and Co.) 10s. 6d.

Lectures on the Theory of Functions of Real Variables. By Prof. J. Pierpont. Vol. ii. Pp. xiii+645. (Boston, New York, Chicago, and London: Ginn and Co.) 20s. net.

Hortus Mortolensis Enumeratio Plantarum in Horto Mortolensi Cultarum. Alphabetical Catalogue of Plants Growing in the Garden of the late Sir Thomas Hanbury, K.C.V.O., F.L.S., at La Mortola, Ventimiglia, Italy. By A. Berger. Pp. xxiv+468+vi plates. (London: West, Newman and Co.) 4s. and 5s.

Smithsonian Miscellaneous Collections. Vol. 59, No. 1:—The Natives of Kharga Oasis, Egypt. By Dr. A. Hrdlička. Pp. vi+118+38 plates. (Washington: Smithsonian Institution.)

The Vulgate Version of the Arthurian Romances. Edited from the Manuscripts in the British Museum by H. O. Sommer. Vol. v. Le Livre de Lancelot del lac. Part iii. Pp. 474. (Washington: Carnegie Institution.)

Guide to the Manuscript Materials relating to American History in the German State Archives. By Prof. M. D. Learned. Pp. vii+352. (Washington: Carnegie Institution.)

A Physical Study of the Firefly. By W. W. Coblenz. Pp. 46+plate. (Washington: Carnegie Institution.)

Verhandlungen der Schweizerischen Naturforschenden Gesellschaft. 94 Jahresversammlung vom 30 Juli bis 2 August 1911 in Solothurn. Band i. Pp. viii+297. Band ii. Pp. viii+263+164. (Aarau: H. R. Sauerländer & Cie.) 7 francs and 3 francs.

Agricultural Education in the Public Schools. By Prof. B. M. Davis. Pp. vii+163. (Chicago: University of Chicago Press; Cambridge: University Press.) 4s. net.

Bibliography of the Mineral Wealth and Geology of China. By Chung Yu Wang. Pp. 63. (London: C. Griffin and Co., Ltd.) 3s. net.

Anthropologie Anatomique. Crane-Face-Tête sur le Vivant. By Dr. G. Paul-Boncour. Pp. xix+396. (Paris: O. Doin et Fils.) 5 francs.

Commercial Guide to the Forest Economic Products of India. By R. S. Pearson. Pp. ix+155+xiii. (Calcutta: Superintendent Government Printing.) 1s. 6d.

DIARY OF SOCIETIES.

THURSDAY, JUNE 6.

ROYAL SOCIETY, at 4.30.—Croonian Lecture: The Process of Excitation in Nerve and Muscle: Keith Lucas.

ROYAL INSTITUTION, at 3.—On X-Rays and Matter: Prof. C. G. Barkla.

INSTITUTION OF MINING ENGINEERS, at 11 a.m.—Address by President: W. E. Garforth.—Why L-ave Shaft-pillars? W. H. and B. H. Pickering.—Safety-devices in Connection with Electrical Machinery and Appliances for Coal-mines: D. Bowen and W. E. French.—A Rope-driven Coal-cutter: W. L. Spence.

LINNEAN SOCIETY, at 8.—The Development of the Cod, *Gadus morrhua*, Linn.: Prof. A. M-ek.—Lantern-slides of Orchids recently observed in Sussex: E. J. Bedford.—Palaeontographical relations of Antarctica: C. Hedley.—Lantern-slides illustrating the Fauna and Flora of the Falkland Islands: R. Vallentin.

FRIDAY, JUNE 7.

ROYAL INSTITUTION, at 9.—Lord Lister: Sir William Macewen.

SATURDAY, JUNE 8.

ROYAL INSTITUTION, at 3.—The Weather and the Utilities of Forecasts: Willis L. Moore.

MONDAY, JUNE 10.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—The Garden of Eden: Sir William Willcocks, K.C.M.G.

NO. 2223, VOL. 89]

TUESDAY, JUNE 11.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Excavations in the Coldoun. Ancient Stone Monuments and Description of Human Remains: F. J. Bennett and Dr. A. Keith.

WEDNESDAY, JUNE 12.

AERONAUTICAL SOCIETY, at 8.30.—Hydro-aëroplanes: G. Holt Thomas.

THURSDAY, JUNE 13.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: A Chemically Active Modification of Nitrogen, produced by the Electric Discharge, IV.: Hon. R. J. Strutt, F.R.S.—(1) On the Series Lines in the Arc Spectrum of Mercury. (2) On the Constitution of the Mercury Green Line $\lambda=5461$ AU and on the Magnetic Resolution of its Satellites by an Echelon Grating: Prof. J. C. McLennan.—(1) On the Convergence of certain Series involving the Fourier Constants of a Function. (2) On Classes of Summable Functions and their Fourier Series: Prof. W. H. Young, F.R.S.—The Number of β Particles emitted in the Transformation of Radium: H. G. Y. Moseley.—Portland Experiments on the Flow of Oil: S. D. Carothers.—On a Form of the Solution of Laplace's Equation suitable for Problems relating to two Spheres: G. B. Jeffery.—On the Emission Velocities of Photo-Electrons: A. Ll. Hughes.

FRIDAY, JUNE 14.

ROYAL INSTITUTION, at 9.—Unknown Parts of South America: A. H. Savage Lander.

GEOLOGISTS' ASSOCIATION, at 8.—The Geology of West Mayo and Sligo with special reference to the August Long Excursion: Prof. A. J. Cole.

ROYAL ASTRONOMICAL SOCIETY, at 5.

PHYSICAL SOCIETY, at 8.—Demonstration of a Method of Determining very small Differences of Density: T. H. Blakesley.—The Maximum Sensibility of a Duddell Vibration Galvanometer: Dr. F. H. Haworth.—An Accurate Examination of the Steinmetz Index for Transformer Iron, Stalloy and Cast Iron: F. Stroud.

MALACOLOGICAL SOCIETY, at 8.—On a collection of Molluscs collected by Mr. E. Jacobson in Java: M. M. Schepman.—Description of Thirty-three New Species of Gastropoda from the Persian Gulf, Gulf of Oman, and Arabian Sea: J. Cosmo Melvill.—Note on the Generic Name *Pectunculus*: Wm. H. Dall.—Note on *Ianthina* species: Tom Iredale.—Egyptian Non-marine Molluscs: Maxwell Smith.

CONTENTS.

	PAGE
Technical Chemical Analysis	341
The Ancestry of Flowering Plants	342
Physical Text-books	343
The Testing of Building Stones	344
Our Bookshelf	345
Letters to the Editor:—	
Discovery of Fossils in the Chert and Black Shale Series at Aberfoyle.—Dr. Thomas J. Jehu	347
The Protection of Nature in South Bavaria.—Dr. C. C. Hosseus	347
A Simple Eclipse Experiment.—W. G. Royal-Dawson	347
Solar Halos on May 17.—C. O. Bartrum	348
Earthquake of May 23.—Rev. W. Sidgreaves, S.J.	348
Anatomy of the Bee's Sting.—Dr. Percy E. Spielmann	348
Clouds and Shadows.—Dr. T. C. Porter	348
Red Water.—Cyril Crossland	349
Zoological Nomenclature.—Prof. Sydney J. Hickson, F.R.S.	349
The Dundee Meeting of the British Association. By Prof. D'Arcy W. Thompson, C.B.	349
The Ceylon Pearl Fishery	350
Notes	350
Our Astronomical Column:—	
The Solar Eclipse of April 17. (<i>Illustrated</i>)	355
Origin of the "Earth Light"	355
The Minor Planet 1911 M.T.	356
The Royal Observatory, Greenwich	356
Eighteenth International Congress of Americanists. By Dr. A. C. Haddon, F.R.S.	357
The Annual Conference of the Association of Teachers in Technical Institutions	358
The Crystallisation of Metals. (<i>Illustrated</i>) By Dr. Cecil H. Desch	359
Sinhalese Iron and Steel of Ancient Origin. (<i>Illustrated</i>) By Sir Robert Hadfield, F.R.S.	360
University and Educational Intelligence	362
Societies and Academies	363
Books Received	365
Diary of Societies	366